Application No.: 09/755951 Docket No.: SY9-060RECN

AMENDMENTS TO THE SPECIFICATION

Please amend the application to insert after the title of the invention and before "FIELD OF THE INVENTION", column 1, line 5, the following:

Note that more than one reissue application has been field. This application is a continuation of reissue application Serial No. 09/038,324, filed on March 11, 1998, issued as RE37485, the entire content of which is incorporated by reference herein.

Please amend the paragraph at lines 49-60 in column 4 of the original patent as follows:

The sample plate 10 has beveled [comers] corners 22 yet provides a total square surface having 50 mm sides interior of the beveled [comers] corners on the top surface of the plate 10 for receiving multiple samples. Samples may be deposited on this plate in a variety of ways, and for explanation purposes it may be assumed that an array of circular spots 16 is photoetched into the plate 10 along with identifying numbers. This arrangement easily accommodates up to 1024 sample spots each 1 mm in diameter in a 32x32 array without identifying numbers. Each of these 1024 sample spots will accommodate about 100 nanoliters of sample solution.

Please amend the paragraph at lines 37-47 in column 7 of the original patent as follows:

The sample storage chamber 60 is equipped with a manually operated door 70 through which a number of sample plates loaded with samples that are off-line can be introduced simultaneously. To load a set of samples, a "manual load" setting is selected on the computer 36. This causes the sample storage chamber 60 to be vented to atmosphere via vent valve 72, and allows the manual load door 70 to be opened. The samples are then loaded and the chamber evacuated. The entire set of sample plates can now be analyzed automatically without further operator intervention.

Please amend the paragraph at lines 20-51 in column 9 of the original patent as follows:

Operation of the fully automated system shown in FIGS. 4 and 5 is thus similar to the system shown in FIGS. 6 and 7 except that operator intervention is minimized in the FIG. 4 system. A preferred system according to this invention combines the features of the systems discussed above. FIG. 8 discloses a system 108 for analyzing a plurality of samples and includes an additional electromagnetic transporter 89B which transports sample plates from cassette 80A containing vacant sample plates 10 to the sample loading system 30. After loading, the sample plates 10 are transported by transporter 89B to the sample storage chamber 60. The cassettes discussed above may each hold up to 20 sample plates in a vertical stack. The cassette 80 which supplies plates 10 to the ion source chamber has at least one empty slot when a sample plate is being tested in the ion source chamber 74. The position of this cassette in the storage chamber may be controlled by a computer driven stepper motor as described above so that any selected slot in the storage cassette can be brought into the plane defined by the respective sample plate

transporter 89. A tested sample plate may be transported from the ion source chamber to a vacant slot in the cassette within the vacuum lock chamber, and the sample cassette indexed to position another sample plate for transport from the vacuum lock chamber to the ion source chamber, then the sample door closed and the new samples on the new plate tested. While the mass spectrometer is testing one sample plate, new samples may be manually or automatically loaded and/or tested using sample plates removed without interfering with the mass spectrometer or it vacuum system. Computer 107 controls the mass spectrometer and the position of the system components described above.

Please amend the paragraph at lines 10-20 in column 12 of the original patent as follows:

In addition to the above changes in the manual calibration procedure, an automatic calibration mode may be used. Particular samples on the sample plate may be identified as calibration samples, and the calibration compound selected from a list. For each sample or calibration compound, the matrix from a list may be selected. For each calibration compound and matrix combination chosen, a list of masses and laser intensities may be stored. The normally used mass and intensity [valves] values may be entered as an initial equipment set-up. A service technician will be able to alter initial factory data at the location of the customer.

Please amend the paragraph at lines 1-17 in column 13 of the original patent as follows:

...terminating in C, T, A, and G, respectively. Each of these fragments is observed as a peak in the time-of-flight spectrum of that sample. By superimposing the four spectra, the sequence of bases can be read directly. Furthermore, the mass difference between any pair of peaks in these four spectra must correspond to the total mass associated with the nucleotides in that portion of the sequence. This provides a significant redundancy in the results, which may be useful for analysis other than that involving the simple ordering of the peaks, a feature which is not available in electrophoresis. If a peak is very weak and is missed, or if two peaks are insufficiently resolved, a base may be missed by simple ordering. The mass difference observed between the next pair of adjacent peaks will thus show the error and allow correction. The computer may thus interpret the spectra and directly produce the sequence of bases in the DNA fragment. If there are any regions of the spectrum where the results may be [consider] considered ambiguous or unreliable, e.g., because the observed mass differences are inconsistent, those regions may be flagged so that the operator may perform either manual study or further automated analysis on those regions.